

# **Audit**



# **Report**

OFFICE OF THE INSPECTOR GENERAL

**PROCUREMENT OF C2 FILTER CANISTERS BY THE  
ARMY ARMAMENT, MUNITIONS, AND CHEMICAL  
COMMAND, ROCK ISLAND, ILLINOIS**

Report No. 94-011

November 2, 1993

**Department of Defense**

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### **Acronyms**

AMCCOM	Army Armament, Munitions, and Chemical Command
MSA	Mine Safety Appliances Company
Racal	Racal Filter Technologies, Limited



**INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-2884**

Report No. 94-011

November 2, 1993

**MEMORANDUM FOR AUDITOR GENERAL, DEPARTMENT OF THE ARMY**

**SUBJECT: Audit Report on Procurement of C2 Filter Canisters by the Army  
Armament, Munitions, and Chemical Command, Rock Island, Illinois  
(Project 3CF-5023)**

**Introduction**

We are providing this final report for your information and use. Congressmen Ronald K. Machtley, Rick Santorum, and H. Martin Lancaster requested that the Inspector General, DoD, review the procurement of C2 filter canisters by the Army Armament, Munitions, and Chemical Command (AMCCOM), Army Materiel Command, Rock Island, Illinois. The C2 filter canisters are used in protective masks to filter chemical and biological contaminants from the air soldiers must breathe during combat. Based on information supplied by Mine Safety Appliances Company (MSA), the congressmen expressed concern that the Army was conducting its procurement of C2 filter canisters in a way that failed to adequately protect the interests of the United States and that unfairly favored a Canadian supplier, Racal Filter Technologies, Limited (Racal), at the expense of a U.S. supplier, MSA.

**Audit Results**

The Army procured the C2 filter canisters in accordance with the Competition in Contracting Act. Both contractors, as well as other bidders, were given the same solicitation package and were provided the same opportunity to bid and win C2 filter canister contracts. Although Racal delivered C2 filter canisters with minor nonconformances, AMCCOM took appropriate action and held Racal to the same specifications and standards as MSA. In previous contracts awarded to MSA, AMCCOM did not withhold contract award when MSA manufactured and delivered canisters with minor nonconformances. In addition, the Army award procedures were evenhanded because, in some instances, the Army changed specifications when Racal and MSA could not meet certain tolerances or where no tolerances were originally allowed.

We verified that AMCCOM conducted testing to confirm that the nonconformances on C2 filter canisters produced by Racal were minor and did not negatively impact the usability of the C2 filter canisters. Upon becoming aware of the nonconformances in June 1992, AMCCOM took appropriate

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administrative actions and initiated a random test of C2 filter canisters from 54 lots manufactured since 1988 by MSA and Racal. The testing, which will be completed by mid-November 1993, will determine the usability of all C2 filter canisters in the Army inventory.

## **Objectives**

The objectives of the audit were to determine whether the Army procured C2 filter canisters in compliance with the Competition in Contracting Act, whether the Army rejected nonconforming C2 filter canisters, and whether the Army took appropriate action for nonconforming C2 filter canisters already delivered and accepted. We also evaluated applicable internal controls.

## **Scope**

We performed the audit at the organizations listed in Enclosure 1. We reviewed seven contract files, valued at \$56.2 million, and related correspondence covering the period August 1988 to June 1993 pertaining to the Army procurement of C2 filter canisters.

This program audit was made from July 1993 through August 1993 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. Accordingly, we included such tests of internal controls as were considered necessary. We did not use computer-generated data or statistical sampling procedures to perform the audit.

## **Internal Controls**

We evaluated the effectiveness of AMCCOM internal controls applicable to the procurement and the quality assurance of the C2 filter canister contracts. This evaluation consisted of reviews of programmatic controls and contract and quality records and interviews with contracting and program personnel. The internal controls applicable to the audit objectives were deemed to be effective in that the audit disclosed no material deficiencies.

## **Prior Audits and Other Reviews**

No audits addressed this specific topic in the last 5 years.

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## Background

From February 1988 through June 1992, the Army awarded eight contracts totaling more than \$62.8 million for 8.9 million C2 filter canisters. The Chemical Research, Development, and Engineering Center, Aberdeen Proving Grounds, Maryland, a subordinate command to AMCCOM, awarded the first of eight contracts to MSA in February 1988. Procurement authority for C2 filter canisters was transferred from the Chemical Research, Development, and Engineering Center to AMCCOM in August 1988. AMCCOM awarded the remaining seven contracts from February 1989 through June 1992. AMCCOM awarded five of the eight contracts to Racal, totaling \$40.8 million. The other three contracts, totaling \$22 million, were awarded to MSA. In March 1993, AMCCOM canceled the latest solicitation. Racal was the low bidder. The Army reevaluated its inventory and requirements in light of the downsizing of the military and realized that procuring additional C2 filter canisters was not necessary. AMCCOM, therefore, decided to defer procurement of additional C2 filter canisters for approximately 18 months, until late FY 1994 or early FY 1995.

## Discussion

MSA alleged that the Army gave Racal an unfair competitive advantage over MSA. According to MSA, Racal reduced production costs for the C2 filter canisters by not adhering to contract specifications, thereby enabling Racal to underbid MSA and win contract awards by only a few "pennies." However, the AMCCOM procurement of C2 filter canisters complied with the Competition in Contracting Act, and Racal did not receive an unfair competitive advantage over MSA.

**Procurement Procedures.** AMCCOM followed appropriate procurement procedures for the competitive procurements of the C2 filter canisters. The contract awards met the requirements of the Competition in Contracting Act. MSA and Racal bid on the same solicitation packages that included the same technical data (drawings and specifications) for the C2 filter canisters and had the same opportunity to win contracts.

**Contract Awards.** Both Racal and MSA won contract awards by small margins. MSA was awarded three of the eight C2 filter canister contracts, the last two by a small margin over Racal. In February 1988, MSA outbid Pall of Canada (later named Racal) by \$2.60 per C2 filter canister and was awarded the first C2 filter canister contract. In February 1989, MSA outbid Racal by \$0.20 per C2 filter canister and in March 1990 by \$0.24 per C2 filter canister. AMCCOM initially made the February 1989 award to Turner Engineering, but MSA assumed the contract through novation in January 1990 when Turner Engineering declared bankruptcy. AMCCOM awarded five contracts to Racal including the four most current C2 filter canister contracts, wherein Racal underbid MSA by amounts ranging from \$0.04 to \$0.24 per C2 filter canister.

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**Design Specifications.** AMCCOM confirmed the MSA allegations that Racal failed to adhere to contract specifications. However, MSA also had problems in complying with the contract specifications for the C2 filter canisters. MSA requested seven deviations and two waivers during a 2-year period, from September 1989 through August 1991. AMCCOM approved five of the MSA requests for deviation and one MSA request for waiver. AMCCOM granted MSA two of the requests for deviation and the one request for waiver because MSA was not able to meet contract specifications. Racal requested two waivers from July 1990 through May 1993 because Racal was not able to meet contract specifications. AMCCOM approved one Racal request for waiver while rejecting the other. In addition, AMCCOM initiated three notices of revision to both Racal and MSA because both failed to meet specifications relating to the C2 filter canister.

**Minor Nonconformances.** In June 1992, MSA notified AMCCOM of alleged nonconforming C2 filter canisters supplied by Racal. The alleged nonconformances were found after MSA performed Government-requested testing and demilitarization on both Racal and MSA C2 filter canisters. (Demilitarization is the process of disassembling the C2 filter canisters to remove activated charcoal.) After MSA completed the demilitarization process, MSA, acting without Government authority, inspected the insides of nine C2 filter canisters produced by Racal and found the alleged nonconformances and reported the alleged nonconformances to the Army.

AMCCOM directed the Chemical Research, Development, and Engineering Center to perform testing on both Racal and MSA C2 filter canisters. Test results indicated that Racal and MSA both provided nonconforming C2 filter canisters. AMCCOM confirmed all but one of the alleged nonconformances on Racal C2 filter canisters and conducted further testing that showed that the nonconformances were minor. AMCCOM notified MSA that the results of the tests indicated the nonconformances did not negatively impact the usability of the Racal C2 filter canisters.

**AMCCOM Actions.** AMCCOM adequately protected the rights of the Government by investigating the MSA allegations and administering appropriate follow-up actions. After receiving notification of the alleged nonconformances, AMCCOM personnel visited MSA in August 1992 to review the alleged nonconformances and visited Racal for the first time in September 1992. AMCCOM took the following additional actions.

**Trips to Racal.** AMCCOM personnel verified the nonconformances during the September 1992 visit to the Racal plant and instructed the contractor to correct the problems. In a follow-on site visit to Racal in December 1992, AMCCOM discovered that Racal had not corrected the problems. Therefore, the Army issued a cure notice to Racal. The cure notice stated that the Army would terminate the contract if Racal disregarded the instruction to change machinery dimensions and did not comply with the contract specifications. In February 1993, AMCCOM quality assurance representatives made a third site visit to the Racal plant and verified that Racal took appropriate corrective action.

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**Other Actions.** AMCCOM determined that more frequent on-site inspections were needed at Racal. In February 1993, AMCCOM issued a Quality Assurance Letter of Instruction to the Defense Contract Management Command International, Defense Contract Management Area Operations, Ottawa, Ontario, Canada, to have the Canadian Forces Technical Services Detachment inspector increase surveillance of Racal. (Canadian Forces Technical Services Detachment personnel inspect goods produced at Canadian plants in accordance with the memorandum of understanding between the United States and Canada.) The Canadian inspectors responded to the Quality Assurance Letter of Instruction by stating that they will increase inspections and surveillance of Racal.

**Surveillance Test Plan.** The Army Pine Bluff Arsenal, Pine Bluff, Arkansas, is performing further surveillance tests on the MSA and Racal C2 filter canisters to determine their usability. The tests encompass 540 canisters from 54 different lots manufactured since 1988. The testing, which will be completed by mid-November 1993, will determine whether the Army should take additional corrective actions.

## Management Comments

We provided a draft of this report to the Army on September 23, 1993. Because the report contained no recommendations, no comments were required of management, and none were received. Therefore, we are publishing this report in final form.

We appreciate the cooperation and courtesies extended to the audit staff. If you have questions on this audit, please contact Mr. Salvatore D. Guli, Program Director, at (703) 692-3025 (DSN 222-3025) or Mr. Bruce Burton, Project Manager, at (703) 692-3118 (DSN 222-3118). Copies of this report will be distributed to the organizations listed in Enclosure 2. Audit team members are listed inside the back cover.



Robert J. Lieberman  
Assistant Inspector General  
for Auditing

Enclosures





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## **Organizations Visited or Contacted**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition, Washington, DC  
Assistant Secretary of Defense (Production and Logistics), Washington, DC  
Comptroller of the Department of Defense, Washington, DC

### **Department of the Army**

Inspector General, Department of the Army, Washington, DC  
Army Armament, Munitions, and Chemical Command, Army Materiel Command,  
Rock Island, IL  
Chemical Research, Development, and Engineering Center, Army Armament,  
Munitions, and Chemical Command, Aberdeen Proving Grounds, MD

### **Defense Organizations**

Defense Logistics Agency, Alexandria, VA  
Defense Contract Management Area Operations, Ottawa, Defense Contract  
Management Command International, Ottawa, Ontario, Canada  
Defense Contract Audit Agency, Alexandria, VA

### **Non-Government Organization**

Mine Safety Appliances Company, Pittsburgh, PA



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House Subcommittee on Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Operations  
House Subcommittee on Legislation and National Security, Committee on  
Government Operations

Congressman Ronald K. Machtley, U.S. House of Representatives  
Congressman Rick Santorum, U.S. House of Representatives  
Congressman H. Martin Lancaster, U.S. House of Representatives



## **Audit Team Members**

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